

# Using Mixed-methods Research in Health & Education in Nepal

Preeti Mahato<sup>1</sup>, Catherine Angell<sup>2</sup>, Edwin van Teijlingen<sup>3</sup>, and Padam P. Simkhada<sup>4</sup>

## ABSTRACT

*In the areas of health promotion and health education, mixed-methods research approach has become widely used. In mixed-methods research, also called multi-methods research, the researchers combine quantitative and qualitative research designs in a single study. This paper introduces the mixed-methods approach for use in research in health education. To illustrate this pragmatic research approach we are including an example of mixed-methods research as applied in Nepalese research.*

**Keywords:** high low income countries, health promotion, childbirth, multi-methods, maternity care.

### Introduction

In the field of health and education, and many other academic disciplines, we recognize three major research approaches. Starting with quantitative research, an approach which uses questionnaire surveys and other numerical data sources addresses the 'How many questions.' Secondly, there is qualitative research which uses interviews, focus groups, observation techniques and creative approaches to address the 'Why question.' Thirdly, we combine quantitative and qualitative research methods in mixed-methods approach. This paper outlines the mixed-methods approach for use in health and education a research in Nepal.

### Outline of mixed-methods

Mixed-methods research is widely used by researchers as a pragmatic method to conduct research into education and health sectors. It involves using both quantitative and qualitative research methods, and at some point integrating the two forms of data/findings (Steckler et al., 1992). We use mixed-methods research as it gives us a more comprehensive insight into a research problem than can be

provided by the qualitative or quantitative approach alone. Mixed-methods research is often referred to as pragmatic as it applies two research approaches that have distinct designs and are based a different philosophical/theoretical underpinning (Creswell & Clark, 2010). According to Rossman and Wilson (1985), the pragmatic mixed-methods approach and accompanying worldview arises out of researchers' emphasis on the research problem and uses all approaches available to understand the problem. The history of this approach as a new methodology dates back to late 1980s and early 1990s based on the work from individuals in diverse field including sociology, health sciences, management, education (Creswell, 2013).

Mixed-methods research has become popular because of two main reasons: first, it combines both quantitative 'how many' and qualitative 'why' questions; secondly the use of mixed methods research provides stronger inference and the results of which can validate each other. By combining both methods, the researcher can gain insight of the problem from different perspectives and is able to get answer of

1. PhD student, Centre for Midwifery, Maternal & Perinatal Health, Bournemouth University, UK
2. Principal Academic in Midwifery, Centre for Midwifery, Maternal & Perinatal Health, Bournemouth University, UK
3. Professor of Reproductive Health Research, Centre for Midwifery, Maternal & Perinatal Health, Bournemouth University, UK & Visiting Professor, Manmohan Memorial Institute of Health Sciences, affiliated with Tribhuvan University, Nepal.
4. Professor & Associate Dean, Liverpool John Moores University & Visiting Professor, Faculty of Health & Social Sciences, Bournemouth University, Manmohan Memorial Institute of Health Sciences, affiliated with Tribhuvan University, Nepal.

complex health problems and from broader perspective (Bryers et al., 2014). Many health studies, for example, use mixed methods in high income countries (Simkhada et al., 2014a) and is also growing in low income countries like Nepal (Bryers et al., 2014).

There are several good examples of mixed-methods studies in the education sector, for example in Special Education (Collins et al., 2006) or the teaching of Mathematics (Ross & Onwuegbuzie, 2012). We would like to highlight two particular examples to the readers. First, a systematic literature review on Pedagogy, Curriculum, Teaching Practices and Teacher Education in Developing Countries (Westbrook et al. 2013) which was conducted by the Centre for International Education at the University of Essex in the United Kingdom (UK). Westbrook et al. (2013, p.2) suggested “that pedagogic practice is developed through interaction between teachers’ thinking or attitudes, what they do in the classroom and what they see as the outcome ...” However, in terms of mixed-methods this review concluded that mixed-methods studies can help fill the gap in our understanding of the way learners are assessed and the assessment’s relationships to pedagogy and student learning (Westbrook et al. 2013, p.4). The second education study we would like to highlight is our own ‘Accessing Research Literature: A Mixed-method Study of Academics in Higher Education Institutions in Nepal’ (Simkhada et al., 2014b). The latter study used a mixed-methods approach comprising a self-administered questionnaire completed by Higher Education teachers in Nepal and informant key interviews with authorities of the Higher Education institutions where these teachers worked. Moreover, this paper describes particular study which uses mixed-methods research to explore issues around birthing centres (BCs) and maternal mental health in Nawalparasi district of Nepal. The mental health of pregnant women and new

mothers in is an important issue in rural Nepal, where communities often have very traditional views of mental illness and its related problems (Van Teijlingen et al., 2015).

### **An example of applying mixed-methods in Nepal**

Our research uses both qualitative and quantitative methods in parallel and collecting both data at the same phase of project and the results will be merged using an all encompassing worldview. The intent of this convergent parallel mixed-method, study is to evaluate the factors affecting quality of service provided by Auxiliary Nurse Midwives (ANMs) working in government (BCs. Table 1 outlines the key questions and research tools applied. In the study quantitative instruments have been used for assessment of BCs and to determine the factors affecting quality of care available at the BCs including evaluation of an intervention to improve knowledge of and attitude towards mental health issues in pregnant women and new mothers among community-based health workers in Nawalparasi. At the same time, qualitative approach will be used to explore the reasons of uptake or by passing BCs and how it could be improved including views from health care providers as well as mothers’ uptake of such services from BCs. Qualitative interviews with primary health workers (ANMs) will also be used to study attendees’ own perceptions of what they have learnt, e.g. on aspects of problem recognition and improved decision-making for women who need to see experienced health (mental health) professionals. The reason for combining both quantitative and qualitative data is to better understand the quality of care and mental health issues by converging quantitative data about responsible factors as well as qualitative data of taking in account view of both mothers and health care providers. This will help to identify and compare different perspective drawn from qualitative as well as

quantitative data. Convergent parallel mixed methods approach suits best for this research since efficient data collection for both the quantitative and qualitative data occurs at roughly the same time rather than at different times that require more visits at the research site.

Table 1: *Methods and study variables in maternity study*

<b>Women in the community:</b>	<b>Method used:</b>
Self-reported antenatal care uptake	Quantitative: questionnaire study
Self-reported use on birthing centres	Quantitative: questionnaire study
Knowledge, attitudes and beliefs of maternity care, issues & staff	Quantitative: questionnaire study + Qualitative interviews & focus groups
<b>Community-based maternity staff:</b>	
Use of birthing centre by local women	Quantitative: study of health care records
Knowledge, attitudes & beliefs of maternity care, pregnancy & mental health.	Qualitative interviews
Knowledge, attitudes and beliefs of maternity care in birthing centres.	Qualitative interviews

#### **Advantage of using mixed-methods for this research**

This mixed-methods study makes a very good use of resources as part of the quantitative data generated in the survey of women with a child under the age of two used by two different evaluation studies and one study on assessment of quality of BCs. This means women have not been overburdened by researchers. The questionnaire has been used before in several previous studies, although a few questions have been added specifically on (a) mental health & pregnancy and (b) birthing centre later.

Understanding complex issues related to maternity care and mental health from different perspectives requires combining of methods which can be achieved by the use of mixed-methods research. In addition, it also provides better and confident results because of use of triangulation as findings are corroborated or supported by different methods (Bryers et al., 2015). Use of mixed-methods in this context will reduce bias and increase validity.

#### **Disadvantages of using mixed-methods for this research**

Due to use of both qualitative and quantitative approach to this research it is more time consuming than using only one method. The time while conducting the research including data collection and analysis increased and it, however, cost more. Finally, it is important to remember that a mixed-methods research project needs people with expertise in qualitative and quantitative research and expertise in combining findings generated by these two methods.

As we have to focus on conducting questionnaire study along with taking interviews, it might lead to smaller sample in the questionnaire or fewer interviews as the attention and the resources are divided between these two methods.

#### **Conclusion**

Mixed-methods is often used for understanding complex issues in society and is a pragmatic approach since it uses both qualitative and quantitative or other methods together to support the findings. Using mixed-methods for this research is justified since both maternity decision making and mental health are complex issues and it needs to be understood from different perspectives. Although there are disadvantages to using mixed-methods for this study the advantages override them.

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